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## NOTICE OF ALLOWANCE AND FEE(S) DUE

23373 7590 03/20/2009

SUGHRIE MION, PLLC  
2100 PENNSYLVANIA AVENUE, N.W.  
SUITE 800  
WASHINGTON, DC 20037

EXAMINER

BALL, JOHN C

ART UNIT

PAPER NUMBER

1795

DATE MAILED: 03/20/2009

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,816	02/25/2005	Takafumi Shichida	Q86555	1157

TITLE OF INVENTION: GAS SENSOR

APPLN. TYPE	SMALL ENTITY	ISSUE FEE DUE	PUBLICATION FEE DUE	PREV. PAID ISSUE FEE	TOTAL FEE(S) DUE	DATE DUE
nonprovisional	NO	\$1510	\$300	\$0	\$1810	06/22/2009

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. PROSECUTION ON THE MERITS IS CLOSED. THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. THIS STATUTORY PERIOD CANNOT BE EXTENDED. SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

## HOW TO REPLY TO THIS NOTICE:

I. Review the SMALL ENTITY status shown above.

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

A. Pay TOTAL FEE(S) DUE shown above, or

B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

## PART B - FEE(S) TRANSMITTAL

Complete and send this form, together with applicable fee(s), to: **Mail** **Mail Stop ISSUE FEE**  
**Commissioner for Patents**  
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**INSTRUCTIONS:** This form should be used for transmitting the ISSUE FEE and PUBLICATION FEE (if required). Blocks 1 through 5 should be completed where appropriate. All further correspondence including the Patent, advance orders and notification of maintenance fees will be mailed to the current correspondence address as indicated unless corrected below or directed otherwise in Block 1, by (a) specifying a new correspondence address; and/or (b) indicating a separate "FEE ADDRESS" for maintenance fee notifications.

CURRENT CORRESPONDENCE ADDRESS (Note: Use Block 1 for any change of address)

23373 7590 03/20/2009  
**SUGHRIE MION, PLLC**  
**2100 PENNSYLVANIA AVENUE, N.W.**  
**SUITE 800**  
**WASHINGTON, DC 20037**

Note: A certificate of mailing can only be used for domestic mailings of the Fee(s) Transmittal. This certificate cannot be used for any other accompanying papers. Each additional paper, such as an assignment or formal drawing, must have its own certificate of mailing or transmission.

### Certificate of Mailing or Transmission

I hereby certify that this Fee(s) Transmittal is being deposited with the United States Postal Service with sufficient postage for first class mail in an envelope addressed to the Mail Stop ISSUE FEE address above, or being facsimile transmitted to the USPTO (571) 273-2885, on the date indicated below.

(Depositor's name)

(Signature)

(Date)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/525,816	02/25/2005	Takafumi Shichida	Q86555	1157

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nonprovisional	NO	\$1510	\$300	\$0	\$1810	06/22/2009

EXAMINER	ART UNIT	CLASS-SUBCLASS
BALL, JOHN C	1795	204-428000

1. Change of correspondence address or indication of "Fee Address" (37 CFR 1.363).	2. For printing on the patent front page, list (1) the names of up to 3 registered patent attorneys or agents OR, alternatively, (2) the name of a single firm (having as a member a registered attorney or agent) and the names of up to 2 registered patent attorneys or agents. If no name is listed, no name will be printed.
<input type="checkbox"/> Change of correspondence address (or Change of Correspondence Address form PTO/SB/122) attached.	1_____
<input type="checkbox"/> "Fee Address" indication (or "Fee Address" Indication form PTO/SB/47; Rev 03-02 or more recent) attached. <b>Use of a Customer Number is required.</b>	2_____

**3. ASSIGNEE NAME AND RESIDENCE DATA TO BE PRINTED ON THE PATENT (print or type)**

PLEASE NOTE: Unless an assignee is identified below, no assignee data will appear on the patent. If an assignee is identified below, the document has been filed for recordation as set forth in 37 CFR 3.11. Completion of this form is NOT a substitute for filing an assignment.

(A) NAME OF ASSIGNEE \_\_\_\_\_ (B) RESIDENCE: (CITY AND STATE OR COUNTRY) \_\_\_\_\_

Please check the appropriate assignee category or categories (will not be printed on the patent):  Individual  Corporation or other private group entity  Government

4a. The following fee(s) are submitted:	4b. Payment of Fee(s): (Please first reapply any previously paid issue fee shown above)
<input type="checkbox"/> Issue Fee	<input type="checkbox"/> A check is enclosed.
<input type="checkbox"/> Publication Fee (No small entity discount permitted)	<input type="checkbox"/> Payment by credit card. Form PTO-2038 is attached.
<input type="checkbox"/> Advance Order - # of Copies _____	<input type="checkbox"/> The Director is hereby authorized to charge the required fee(s), any deficiency, or credit any overpayment, to Deposit Account Number _____ (enclose an extra copy of this form).

5. Change in Entity Status (from status indicated above)	<input type="checkbox"/> a. Applicant claims SMALL ENTITY status. See 37 CFR 1.27.	<input type="checkbox"/> b. Applicant is no longer claiming SMALL ENTITY status. See 37 CFR 1.27(g)(2).
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NOTE: The Issue Fee and Publication Fee (if required) will not be accepted from anyone other than the applicant; a registered attorney or agent; or the assignee or other party in interest as shown by the records of the United States Patent and Trademark Office.

Authorized Signature \_\_\_\_\_ Date \_\_\_\_\_

Typed or printed name \_\_\_\_\_ Registration No. \_\_\_\_\_

This collection of information is required by 37 CFR 1.311. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 12 minutes to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, Virginia 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS; SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450.

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10/525,816	02/25/2005	Takafumi Shichida	Q86555	1157
23373	7590	03/20/2009	EXAMINER	
SUGHRUE MION, PLLC 2100 PENNSYLVANIA AVENUE, N.W. SUITE 800 WASHINGTON, DC 20037				BALL, JOHN C
				ART UNIT 1795
				PAPER NUMBER
DATE MAILED: 03/20/2009				

## Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)

(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 806 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 806 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

<b>Notice of Allowability</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/525,816	SHICHIDA ET AL.	
	<b>Examiner</b>	Art Unit	
	J. CHRISTOPHER BALL	1795	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTO-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1.  This communication is responsive to Remarks filed on February 24, 2009.

2.  The allowed claim(s) is/are 1,3 and 7-13.

3.  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)  All b)  Some\* c)  None of the:

1.  Certified copies of the priority documents have been received.

2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_.

3.  Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4.  A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.

5.  CORRECTED DRAWINGS ( as "replacement sheets") must be submitted.

(a)  including changes required by the Notice of Draftsperson's Patent Drawing Review ( PTO-948) attached 1)  hereto or 2)  to Paper No./Mail Date \_\_\_\_.

(b)  including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).

6.  DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

#### Attachment(s)

1. <input type="checkbox"/> Notice of References Cited (PTO-892)	5. <input type="checkbox"/> Notice of Informal Patent Application
2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)	6. <input type="checkbox"/> Interview Summary (PTO-413), Paper No./Mail Date ____.
3. <input type="checkbox"/> Information Disclosure Statements (PTO/SB/08), Paper No./Mail Date ____.	7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment
4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit of Biological Material	8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance
	9. <input type="checkbox"/> Other ____.

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Jerrick Ho, Attorney for the Applicants on March 16, 2009.

The application has been amended as follows:

- Page 10, [0022], replace "claim 2 is characterized in that, in the gas sensor set forth in claim1" with "Figure 1 is characterized in that"
- Page 11, [0023], replace "claim 2" with "Figure 1"
- Page 13, [0026] and [0027], replace "3" with "2"
- Page 14, [0028], replace "claim 4 is characterized in that, in the gas sensor set forth in claim 3," with "Figure 11A is characterized in that"
- Page 14, [0029], replace "claim 4" with "Figure 11A"
- Page 15, [0030] and [0031], replace "claim 3 or 4" with "Figure 11A"
- Page 16, [0032], replace "claim 5 is characterized in that, in the gas sensor set forth in claim 1," with "Figure 5B is characterized in that"
- Page 16, [0033], replace "claim 5" with "Figure 5B"
- Page 17, [0035], replace "claim 6 is characterized in that, in the gas sensor set forth in claim 5," with "Figure 6 is characterized in that"

- Page 18, [0036], replace “claim” with “Figure”
- Page 18, [0037], replace “7” with “3”; delete “, in the gas sensor set forth in one of claims 2 to 6,”
- Page 19, [0038], replace “7” with “3”
- Page 19, [0039], replace “8” with “4”; delete “, in the gas sensor set forth in one of claims 2 to 4,”
- Page 20, [0040]; Page 21, [0041] & [0042]; Page 22, [0043], replace “8” with “4”
- Page 22, [0044], replace “9” with “5”; delete “, the gas sensor set forth in claim 8,”
- Page 23, [0045], replace “9” with “5”
- Page 23, [0046], replace “10” with “6”; delete “, in the gas sensor set forth in claim 8,”
- Page 24, [0047], replace “10” with “6”
- Page 24, [0048], replace “8 to 10” with “4 to 6”; replace “11” with “7”
- Page 25, [0049], replace “11” with “7”; replace “12” with “8”

2. The following is an examiner’s statement of reasons for allowance: The Remarks filed with the Office on February 24, 2009, make the persuasive argument that the prior art of record does not fairly teach or suggest the claimed feature of “the bottom wall of the outer hollow-cylindrical portion has a taper part so that an outer diameter of the bottom wall become smaller toward the front end, and

wherein a tip end of the taper part of the bottom wall of the outer hollow-cylindrical portion faces the taper part of the side wall of the inner hollow-cylindrical portion". Additional searching of the prior art did not yield a reference which anticipates or makes obvious this feature.

The closest art is that already made of record, a machine translation to English of GRIESER et al. (Japanese Patent Publication 2002-236105).

GRIESER et al. discloses a gas measuring sensor, wherein is taught a gas sensing element extending in an axial direction, and having a gas contact part, which is brought into contact with a gas to be measured, at its front end (21, Drawing 1); a case that surrounds the gas sensing element in a radial direction in such a manner that the gas contact part protrudes from a front end of the case (26, Drawing 1); and, a protector, formed into a bottomed cylinder, fixed to the case in such a manner that the protector covers the gas contact part of the gas sensing element (25, Drawing 1), wherein the protector is composed of an inner hollow-cylindrical portion, and an outer hollow-cylindrical portion which is provided coaxially with a side wall of the inner hollow-cylindrical portion with an air space in between (28, Drawing 1), the inner hollow-cylindrical portion is formed into a bottomed cylinder, the outer hollow-cylindrical portion is formed into a bottomed cylinder, the inner hollow-cylindrical portion is passed through an insertion hole provided in a bottom wall of the outer hollow-cylindrical portion, so that the bottom wall of the inner hollow-cylindrical portion protrudes nearer to the front end than the bottom wall of the outer hollow-cylindrical portion, the bottom

wall of this inner hollow-cylindrical portion being made a bottom wall positioned at an utmost front end of the protector (Drawing 1), a plural number of outer-wall gas inlet openings are formed in a side wall of the outer hollow-cylindrical portion (29 in outer wall, Drawing 1), plural number of inner-wall gas inlet openings are formed in the side wall of the inner hollow-cylindrical portion, the inner-wall gas inlet openings being arranged nearer to the case than the outer-wall gas inlet openings so that the gas to be measured is introduced around the gas contact part, and, an outer circumferential face of the side wall of the inner hollow-cylindrical portion positioned opposite to the outer-wall gas inlet openings is formed so as to be parallel to an outer circumferential face of the side wall of the outer hollow-cylindrical portion (29 in inner wall, Drawing 1), a discharge opening for discharging the gas to be measured, which is introduced to inside of the inner hollow-cylindrical portion directly to outside of the protector, is formed in the bottom wall positioned at the utmost front end of the protector (29 at bottom of cylinder, Drawing 1), and the side wall of the inner hollow-cylindrical portion, which protrudes nearer to the front end than the bottom wall of the outer hollow-cylindrical portion, has a taper part so that an outer diameter of the side wall becomes smaller toward the front end (Drawing 1).

GRIESER et al. does not teach, suggest, or make obvious that the bottom wall of the outer hollow-cylindrical portion has a taper part so that an outer diameter of the bottom wall become smaller toward the front end, and wherein a tip end of the taper part of the bottom wall of the outer hollow-cylindrical portion

faces the taper part of the side wall of the inner hollow-cylindrical portion. No other prior art reference found during examination made the limitation missing from GRIESER obvious in view of such a secondary reference.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

***Comments on International Search Report of PCT/JP03/10887***

3. The ISR for the parent PCT application of the instant application included a number of references that were categorized as "X" and/or "Y" references. The following is a list of these references and their publication dates, which were submitted to the Office on an Informational Disclosure Statement:

JP 2000-171429, A	June 23, 2000
JP 2001-099807, A	April 13, 2001
JP 2001-343356, A	December 14, 2001
JP H08-254521, A	October 1, 1996
JP 2002-236105, A	August 23, 2002
WO 01/22073	March 29, 2001
JP 2003-075396	March 12, 2003

All the above references were considered with respect to the present claims, however, none of the references anticipated or made obvious the claim

limitation of the bottom wall of the outer hollow-cylindrical portion has a taper part so that an outer diameter of the bottom wall become smaller toward the front end, and wherein a tip end of the taper part of the bottom wall of the outer hollow-cylindrical portion faces the taper part of the side wall of the inner hollow-cylindrical portion.

***Comments on Office Action from JPO of Application JP 2003-303327***

4. The Office Action issued from the Japanese Patent Office for the parent foreign priority application dated January 15, 2008 was submitted to the Office on an Informational Disclosure Statement. The JPO Office Action rejected the application based on five cited references. The following is a list of these references, which were submitted to the Office on an Informational Disclosure Statement:

JP 2002-236105, A

JP 2001-228112, A

JP 2000-171430, A

JP 2001-099807, A

JP H08-254521, A

All the above references were considered with respect to the present claims, however, none of the references anticipated or made obvious the claim limitation of the bottom wall of the outer hollow-cylindrical portion has a taper part

so that an outer diameter of the bottom wall become smaller toward the front end, and wherein a tip end of the taper part of the bottom wall of the outer hollow-cylindrical portion faces the taper part of the side wall of the inner hollow-cylindrical portion.

***Conclusion***

5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to J. CHRISTOPHER BALL whose telephone number is (571)270-5119. The examiner can normally be reached on Monday through Thursday, 8:00 am to 5:00 pm (EDT).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Nam Nguyen can be reached on (571) 272-1342. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JCB  
AU 1795  
03/16/2009

/Alex Noguerola/  
Primary Examiner, Art Unit 1795  
March 16, 2009